

# Congress of the United States

## House of Representatives

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

2321 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515-6301

(202) 225-6371  
[www.science.house.gov](http://www.science.house.gov)

February 12, 2016

The Honorable Gene Dodaro  
Comptroller General  
Government Accountability Office (GAO)  
441 G Street, N.W.  
Washington, D.C. 20584

Dear Mr. Dodaro:

On October 23, 2015, a methane gas leak was discovered in Aliso Canyon, an underground gas storage facility in Los Angeles, California. Methane accounts for about 25 percent of manmade global warming.<sup>1</sup> Ever since the leak began, the potent greenhouse gas has been leaking at a rate as high as 65 metric tons per hour.<sup>2</sup> This estimated rate equals one quarter of all methane gas released by the entire state of California.<sup>3</sup> The Aliso Canyon facility, less than two miles uphill from the Porter Ranch residential community with a population of more than 30,000 people, provides natural gas to 21 million customers through 14 separate power plants.<sup>4</sup>

The Southern California Gas Company (SoCalGas) – the owner of the Aliso Canyon storage facility and a subsidiary of Sempra Energy – tried to stop the leak by pouring liquid down the well and fixing the well head. This routine procedure was attempted five times, at which point it was clear that the leak was deeper underground than typical leaks. The amount of methane spewing also precluded another routine solution – flaring, which involves the controlled burn-off of gas – because it would be too dangerous. SoCalGas began plans for a relief well in early November and operations began on December 4, 2015.<sup>5</sup> But this project may not be completed until later this month, four months after the leak was first discovered.<sup>6</sup>

---

<sup>1</sup> Steve Hamburg, EDF Chief Scientist, “Methane: The other important greenhouse gas,” Environmental Defense Fund (EDF), undated, accessed here: <https://www.edf.org/methane-other-important-greenhouse-gas>

<sup>2</sup> Sarah Zhang, “California Has a Huge Gas Leak, and Crews Can’t Stop It Yet,” *Wired*, December 15, 2015, accessed here: [www.wired.com/2015/12/massive-gas-leak-california](http://www.wired.com/2015/12/massive-gas-leak-california)

<sup>3</sup> Steve Hamburg, EDF Chief Scientist, “Methane: The other important greenhouse gas,” Environmental Defense Fund (EDF), undated, accessed here: <https://www.edf.org/methane-other-important-greenhouse-gas>

<sup>4</sup> Gene Maddaus, “What Went Wrong at Porter Ranch,” *LA Weekly*, December 22, 2015, accessed here: <http://www.laweekly.com/news/what-went-wrong-at-porter-ranch-6405804>

<sup>5</sup> “Aliso Canyon Storage Facility Relief Well Operations,” SoCalGas, December 28, 2015, accessed here: [www.socalgas.com/documents/news-room/aliso/AlisoCynReliefWellFactSheet-v3-FINAL.pdf](http://www.socalgas.com/documents/news-room/aliso/AlisoCynReliefWellFactSheet-v3-FINAL.pdf)

<sup>6</sup> “What We Are Doing: Updated progress on the relief well,” SoCalGas, undated, accessed here: [www.alisoupdates.com/what-we-are-doing](http://www.alisoupdates.com/what-we-are-doing)

On Jan. 6<sup>th</sup> California Governor Jerry Brown declared a state of emergency, and SoCalGas is under a court order to pay up to \$9,000 a month per household to evacuate and house Porter Ranch residents.<sup>7</sup> Thousands have already fled the area due to public health concerns.<sup>4</sup> Residents have described various health ailments, including nausea, nosebleeds, and headaches that are known to be common effects associated with methane gas exposure.<sup>8</sup> More than two dozen lawsuits have been filed against SoCalGas by Porter Ranch residents, as well as the Los Angeles city attorney and county.<sup>9</sup> On Feb. 2, 2016, the LA County District Attorney also filed four criminal charges against SoCalGas.<sup>10</sup> The cost of the leak may run into the billions of dollars.<sup>11</sup>

The SoCalGas leak has been labeled the biggest environmental disaster since BP's *Deepwater Horizon* oil spill and has raised serious questions regarding the safety of the 400 underground natural gas storage facilities, 305,000 miles of transmission pipelines, and nearly two million miles of distribution pipelines that comprise the U.S. natural gas infrastructure.<sup>12</sup> However, no federal regulations govern the detection or repair of methane gas leaks, although the Dept. of Interior and Environmental Protection Agency have proposed regulations under consideration.<sup>13</sup>

We believe the SoCalGas leak raises three sets of related concerns about the safety, oversight of and potential health implications of natural gas storage facilities and their associated pipelines.

---

<sup>7</sup> "As Porter Ranch Residents Look For Temporary Houses, Some Accuse Landlords of Price-Gouging," *CBS Los Angeles*, January 7, 2016, accessed here: <http://losangeles.cbslocal.com/2016/01/07/as-porter-ranch-residents-look-for-new-homes-some-say-landlords-are-price-gouging/>

<sup>8</sup> See, Tribune wire reports, "Invisible Disaster Drives People from Upscale LA-area Community," *Chicago Tribune*, January 10, 2016, accessed here: [www.chicagotribune.com/news/nationworld/ct-porter-ranch-california-methane-gas-leak-20160110-story.html](http://www.chicagotribune.com/news/nationworld/ct-porter-ranch-california-methane-gas-leak-20160110-story.html) and "Methane: Human Health Effects," Toxicological Data Network (TOXNET), National Library of Medicine, undated, accessed here: <http://toxnet.nlm.nih.gov/cgi-bin/sis/search/a?dbs+hsdb:@term+@DOCNO+167>

<sup>9</sup> See, "LA City Attorney Sues SoCal Gas Over Porter Ranch Gas Leak," *CBS Los Angeles*, December 7, 2015, accessed here: <http://losangeles.cbslocal.com/2015/12/07/la-city-attorney-sues-socal-gas-co-over-porter-ranch-gas-leak/>; Abby Sewell, "Class-action lawsuit filed over Porter Ranch gas leak," *Los Angeles Times*, December 2, 2015, accessed here: <http://www.latimes.com/local/lanow/la-me-ln-porter-ranch-lawsuit-20151202-story.html>; and "City Attorney Feuer Announces that LA County is Joining Suit Against SoCal Gas Over Public Health Emergency at Porter Ranch Natural Gas Facility," Mike Feuer, Los Angeles City Attorney, January 11, 2016, accessed here: [www.lacityattorney.org/#!/City-Attorney-Feuer-Announces-that-LA-County-is-Joining-Suit-Against-SoCal-Gas-Over-Public-Health-Emergency-at-Porter-Ranch-Natural-Gas-Facility/c1143/5693e4fd0cf2e0992568a26c](http://www.lacityattorney.org/#!/City-Attorney-Feuer-Announces-that-LA-County-is-Joining-Suit-Against-SoCal-Gas-Over-Public-Health-Emergency-at-Porter-Ranch-Natural-Gas-Facility/c1143/5693e4fd0cf2e0992568a26c).

<sup>10</sup> Paige St. John and Alice Walton, "L.A. County files criminal charges over Porter Ranch gas leak," *Los Angeles Times*, February 2, 2016, accessed here: [www.latimes.com/local/lanow/la-me-attorney-general-lawsuit-aliso-canyon-leak-20160202-story.html](http://www.latimes.com/local/lanow/la-me-attorney-general-lawsuit-aliso-canyon-leak-20160202-story.html)

<sup>11</sup> Ivan Penn, "Gas leak will cost SoCal Gas billions, experts say," *San Diego Union-Tribune*, January 9, 2016, accessed here: [www.sandiegouniontribune.com/news/2016/jan/09/gas-leak-will-cost-socal-gas-billions-experts-say/](http://www.sandiegouniontribune.com/news/2016/jan/09/gas-leak-will-cost-socal-gas-billions-experts-say/)

<sup>12</sup> See, "General Pipeline FAQs," Pipeline and Hazardous Material Safety Administration (PHMSA), Last Updated: Jan 23, 2013, accessed here: <http://phmsa.dot.gov/about/faq> and "About U.S. Natural Gas Pipelines: Transporting Natural Gas," U.S. Energy Information Administration (EIA), (based on data through 2007/2008), accessed here: [www.eia.gov/pub/oil\\_gas/natural\\_gas/analysis\\_publications/ngpipeline/index.html](http://www.eia.gov/pub/oil_gas/natural_gas/analysis_publications/ngpipeline/index.html)

<sup>13</sup> Jennifer A. Dlouhy, "California Gas Leak Boosts Obama Move to Curb Methane Emissions," *Bloomberg Business*, January 20, 2016, accessed here: [www.bloomberg.com/news/articles/2016-01-20/obama-to-force-oil-gas-companies-to-pare-potent-methane-leaks](http://www.bloomberg.com/news/articles/2016-01-20/obama-to-force-oil-gas-companies-to-pare-potent-methane-leaks)

1. **Oversight.** With both an aging and expanding pipeline infrastructure it is important to ensure that pipeline operations are being properly monitored by the private sector and adequately overseen by state and federal regulators.
2. **Technology & Standards.** The inability to quickly halt the massive SoCalGas leak highlights the need to develop better technologies, and perhaps enhance pipeline standards, to adequately and rapidly address gas leaks when they occur in the future.
3. **Public Health.** It is also important to determine the potential public health risks from exposure to the consistent low level methane gas leaks occurring throughout the U.S. and the health consequences resulting from exposures to the large-scale Aliso Canyon leak.

Since the SoCalGas leak became public, news reports have suggested that safety and operational issues at the Aliso Canyon storage facility have gone unaddressed for decades. The gas well, called Standard Sesnon 25, was drilled in 1953, and was last inspected in 1976. In 1979, SoCalGas reportedly failed to replace a safety valve that had been removed and could have possibly stopped the current gas leak quickly. An executive from SoCalGas claims that the reason the valve was not replaced was because the well was determined not to be a “critical well” because it is located more than 300 feet from residential areas.<sup>14</sup> Thirteen years later in 1992, according to company documents filed with the California Division of Oil, Gas & Geothermal Resource, a potential leak was detected on Standard Sesnon 25. The leak, however, was not thoroughly investigated or halted at that time.<sup>15</sup>

In 2014, the SoCalGas director of gas storage Phillip Baker testified before the California Public Utilities Commission and emphasized the need for increased funding to address both increased safety concerns and the company’s aging pipeline infrastructure. “Without a robust program to inspect underground storage wells to identify potential safety and/or integrity issues, problems may remain undetected.... This concern is further amplified by the age, length, and location of wells,” Baker said. “Some SoCalGas wells are more than 80 years old with an average age of 52 years.... [and] some wells are located within close proximity to residential dwellings or high consequence areas.... In addition, SoCalGas and customers could experience major failures and service interruptions from potential hazards that currently remain undetected,” he concluded.<sup>16</sup>

The ongoing SoCalGas leak highlights the vulnerabilities of the natural gas infrastructure and the difficulties in effectively responding to accidents. Even in the absence of large leaks, millions of

---

<sup>14</sup> Zahira Torres and Frank Shyong, “Leaking gas well in Porter Ranch area lacked a working safety valve,” *Los Angeles Times*, January 3, 2016, accessed here: <http://www.latimes.com/local/california/la-me-0104-gas-leak-20160104-story.html>

<sup>15</sup> Melissa Cronin, “The Company Behind LA’s Methane Disaster Knew Its Well Was Leaking 24 Years Ago,” *Motherboard*, Vice, January 8, 2016, accessed here: <http://motherboard.vice.com/read/the-company-behind-las-methane-disaster-knew-its-well-was-leaking-24-years-ago#>

<sup>16</sup> Direct Testimony, Phillip E. Baker, Director of Storage, SoCalGas, “*Underground Storage*,” Before the Public Utilities Commission of the State of California, November 2014, accessed here: [https://www.socalgas.com/regulatory/documents/a-14-11-004/SCG-06\\_P\\_\\_Baker\\_Testimony.pdf](https://www.socalgas.com/regulatory/documents/a-14-11-004/SCG-06_P__Baker_Testimony.pdf)

metric tons of methane are dumped into the atmosphere every year from small, persistent leaks.<sup>17</sup> A cloud of methane the size of Delaware hovers permanently over New Mexico and old gas pipelines in Washington, D.C. have about four leaks per mile of pipeline.<sup>18</sup> In recent years, natural gas pipelines have also been involved in numerous deadly accidents, resulting in 77 deaths and 364 injuries from 2010 to 2014.<sup>19</sup> In 2014, for instance, seven people were killed and more than 70 injured in Harlem, New York when a pipeline exploded.<sup>20</sup> In 2010, eight people were killed when a pipeline owned by Pacific Gas & Electric exploded in San Bruno, California. In that case, a grand jury charged PG&E officials with obstructing justice by lying to National Transportation Safety Board (NTSB) investigators after the blast.<sup>21</sup> In 2014, the company was also fined \$1.6 billion by state regulators as a result of the San Bruno explosion.<sup>22</sup> Since 2005, natural gas pipeline accidents have resulted in more than \$5 billion in damages.<sup>23</sup>

The technical failures in Aliso Canyon have led to pervasive yet poorly understood health concerns among Porter Ranch residents. Individuals in the area are breathing in methane and mercaptans, a chemical added to odorless methane in order to signal a leak with its distinctive rotten egg smell. Within a day of the gas leak being detected, Porter Ranch residents began placing 9-1-1 calls to report headaches, nosebleeds, and nausea, but SoCalGas officials did not inform residents of the leak until October 26 – three days after they detected it.<sup>24</sup> SoCalGas acknowledged that methane exposure may result in “dizziness, nausea and other issues” but cited the California Office of Environmental Health Hazard Assessment (OEHHA) and the L.A. County Public Health Department as saying residents faced no public health threat.<sup>25</sup> There is a

---

<sup>17</sup> Elisabeth Ponsot, “California natural gas leak just one of thousands across country,” *PBS NewsHour*, Jan, 18, 2016, accessed here: [www.pbs.org/newshour/updates/california-natural-gas-leak-just-one-of-thousands-across-country/](http://www.pbs.org/newshour/updates/california-natural-gas-leak-just-one-of-thousands-across-country/)

<sup>18</sup> See, Joby Warrick, “Delaware-size Gas Plume over West Illustrates the Cost of Leaking Methane,” *Washington Post*, December 29, 2014, accessed here: [www.washingtonpost.com/national/health-science/delaware-sized-gas-plume-over-west-illustrates-the-cost-of-leaking-methane/2014/12/29/d34c3e6e-8d1f-11e4-a085-34e9b9f09a58\\_story.html](http://www.washingtonpost.com/national/health-science/delaware-sized-gas-plume-over-west-illustrates-the-cost-of-leaking-methane/2014/12/29/d34c3e6e-8d1f-11e4-a085-34e9b9f09a58_story.html) and Christopher Joyce, “About 6,000 Natural Gas Leaks Found In D.C.'s Aging Pipes,” *National Public Radio* (NPR), January 17, 2014, accessed here: [www.npr.org/2014/01/16/262911327/aging-pipes-in-d-c-create-about-6-000-natural-gas-leaks](http://www.npr.org/2014/01/16/262911327/aging-pipes-in-d-c-create-about-6-000-natural-gas-leaks).

<sup>19</sup> “Pipeline Incident 20 Year Trend,” Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation (DOT), accessed here: <https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Portalpages>

<sup>20</sup> “Harlem Building Collapse: Seven Dead, 74 Hurt,” *NBC News*, March 13, 2014, accessed here: [www.nbcnews.com/news/us-news/harlem-building-collapse-seven-dead-74-hurt-n51546](http://www.nbcnews.com/news/us-news/harlem-building-collapse-seven-dead-74-hurt-n51546)

<sup>21</sup> Paul Elias, “PG&E Charged With Obstruction Over Deadly San Bruno Pipeline Blast,” *Associated Press*, July 29, 2014, accessed here: <http://www.seattletimes.com/nation-world/pge-charged-with-obstruction-over-san-bruno-blast-1/>

<sup>22</sup> “CPUC Imposes Record \$1.6 Billion Fine On PG&E For San Bruno Pipeline Explosion,” *CBS News*, San Francisco, accessed here:

<http://sanfrancisco.cbslocal.com/2015/04/09/cpuc-imposes-1-6-billion-fine-on-pge-for-pipeline-violations/>

<sup>23</sup> “Pipeline Incident 20 Year Trend,” Pipeline and Hazardous Materials Safety Administration (PHMSA), U.S. Department of Transportation (DOT), accessed here: <https://hip.phmsa.dot.gov/analyticsSOAP/saw.dll?Portalpages>

<sup>24</sup> Sharon McNary, “SoCal Gas Took Days to Inform Residents, Local Agencies of Methane Leak,” *Southern California Public Radio* 89.3 KPCC, December 14, 2015, accessed here: [www.scpr.org/news/2015/12/14/56207/socal-gas-took-days-to-inform-residents-local-agen](http://www.scpr.org/news/2015/12/14/56207/socal-gas-took-days-to-inform-residents-local-agen).

<sup>25</sup> See, “Health Facts,” SoCalGas: A Sempra Energy Utility, accessed here: [www.alisoupdates.com/health-facts](http://www.alisoupdates.com/health-facts) and “Community Awareness – Aliso Canyon – Frequently Asked Questions,” A Sempra Energy Utility, accessed here: [www.socalgas.com/documents/news-room/faq/aliso-canyon-faq-121415.pdf](http://www.socalgas.com/documents/news-room/faq/aliso-canyon-faq-121415.pdf)

dearth of epidemiological studies on the health impacts of methane, but some studies raise concerns regarding the leaching of methane into water supplies near fracking sites, for instance.<sup>26</sup>

By any measure the Aliso Canyon leak is an environmental and possibly a public health disaster. The ongoing SoCalGas leak highlights national issues with the aging U.S. natural gas pipeline infrastructure and the need to ensure that appropriate oversight of the gas industry is robust. Appropriate standards and innovative technical solutions need to be applied and potential safety hazards need to be identified before future leaks or explosions occur that endanger the public's safety. The public should also be fully informed of both the short and long-term potential health consequences from methane exposures associated with natural gas operations.

Properly addressing these issues now is critical to the safe expansion of the natural gas infrastructure that has been underway for several years. In 2015 alone, nearly 3,000 miles of newly constructed natural gas pipeline projects were submitted to the Federal Energy Regulatory Commission for approval.<sup>27</sup> As public officials, we want to ensure that the economic livelihood of the natural gas boom does not endanger the lives, human health or safety of the public. As Members of the House Committee on Science, Space & Technology with jurisdiction over pipeline research and development, and voluntary consensus standards over pipelines, we therefore ask that GAO undertake a review to address the issues identified below.

1. What existing technologies, standards or best practices are available to help identify and halt existing natural gas leaks across the nation's pipeline and gas storage infrastructure?
  - a. Please examine the extent to which methane gas leaks are currently occurring.
  - b. Determine the current set of practices used by energy companies and public utilities to locate methane gas leaks, assess the severity of the leaks, resolve the leaks, and identify their cause. In making these determinations, please also indicate where these efforts fall short and how these practices can be improved.
  - c. Please also provide recommendations on improving the overall safety and oversight of natural gas storage systems and pipelines.
2. Are there public health monitoring criteria that should be applied across the natural gas industry, particularly in residential communities near the nation's underground natural gas storage facilities and hydraulic fracturing sites across the country?
3. Are there oversight mechanisms, inspection tools or federal reporting requirements that can help ensure or improve the safe operation of the nation's 400 underground natural gas storage facilities, 305,000 miles of natural gas transmission pipelines, and nearly two million miles of natural gas distribution pipelines across the United States?

---

<sup>26</sup> Ruth Mcdermott-Levy, Nina Kaktins and Barbara Sattler, "Fracking, the Environment, and Health," *American Journal of Nursing* (AJN), June 2013, Vol. 113, No. 6, accessed here: <http://emba.villanova.edu/content/dam/villanova/sustainability/McD-LFrackingEnvironmentHealth.pdf>.

<sup>27</sup> "Major Pipeline Projects Pending (Onshore)," Natural Gas, Federal Energy Regulatory Commission (FERC), Data as of December 29, 2015, accessed here: [www.ferc.gov/industries/gas/indus-act/pipelines/pending-projects.asp](http://www.ferc.gov/industries/gas/indus-act/pipelines/pending-projects.asp)

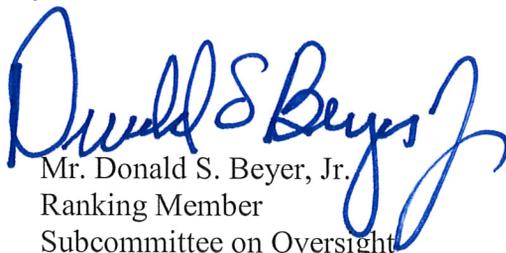
To discuss this request in more detail please have your staff contact Douglas Pasternak of the Committee's Democratic staff at (202) 226-8892.

Your assistance in this matter is greatly appreciated.

Sincerely,



Ms. Eddie Bernice Johnson  
Ranking Member  
Committee on Science, Space & Technology



Mr. Donald S. Beyer, Jr.  
Ranking Member  
Subcommittee on Oversight  
Committee on Science, Space & Technology



Ms. Suzanne Bonamici  
Ranking Member  
Subcommittee on Environment  
Committee on Science, Space & Technology



Mr. Alan Grayson  
Ranking Member  
Subcommittee on Energy  
Committee on Science, Space & Technology